Does Health Insurance Make a Difference?

Differences in Health Status and Access to Care for Rhode Islanders Ages 18-64 by Insurance Status

A Chartbook Prepared for:

Division of Health Quality, Financing and Purchasing RI Department of Human Services

Prepared by:

Medical Research and Evaluation Project Health Indicator Project October 2000

<u>Acknowledgements</u>

This chartbook was prepared for the Division of Health Quality, Financing and Purchasing in partial fulfillment of the scope of work under the state contract – "Medicaid Research and Evaluation Project." The Behavioral Risk Factor Surveillance System (BRFSS) data set was provided to the Division as part of an interagency agreement for data sharing between the Department of Health and the Department of Human Services. Creation of the health indicators from the BRFSS was funded by the Center for Health Care Strategies in a grant to the state entitled "Development of a Health Indicator System for Rhode Islanders on Medicaid."

The author would like to thank the members of the Evaluation Studies Workgroup – Susan Allen, PhD, Patrick Vivier, MD, PhD, Christine Payne, PhD and Jay Beuchner, PhD for their review and comment on the Chartbook. The Evaluation Studies Workgroups meetings are funded by the Center for Health Care Strategies grant and its members are listed in Appendix 1. In addition, thanks goes to Jana Hesser, PhD, Coordinator of the BRFSS for her careful review and comments on the report. Special thanks go to Holly Tartaglia and Elaine DeJordy for production of the report and graphics, and to Brock deChristopher for the cover design.

Jane Griffin, MPH
Project Director
Medicaid Research and Evaluation Project
401-462-6330
JGriffin@gw.dhs.state.ri.us
October 2000

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SECTION 1:

OVERVIEW

Section 1: Overview

Background

During the 1990's the nation's health insurance system has gone through tremendous changes. ¹ There has been substantial new investment in Medicaid programs, an increase in the number of uninsured, and an erosion of employer-based coverage. ² In Rhode Island employed persons are a growing majority of the uninsured and fewer employed people are covered by private health plans. ³

Lack of health insurance has been associated with delayed health care and increased morbidity and mortality.

Individuals without health insurance are a priority concern because they seek health services later and utilize less services overall.

Women without private health insurance are less likely to be screened for breast cancer, receive different treatment and have the worst survival rates.

Children who have health insurance are more likely to have a usual source of medical and dental care.

Purpose of Chartbook

The purpose of this Chartbook is to provide information on the association of health insurance with:

- Sociodemographic characteristics
- Access to Health Care and Preventive Health Services
- Tobacco Use
- Health Status and Disability

This chartbook can be used by policymakers, health professionals and consumers to compare health indicators by insurance status, to provide baseline measures, to measure effectiveness of program interventions and to trend health indicators over time.

Description of Data Source and Methods

The Behavioral Risk Factor Surveillance System (BRFSS) aggregated database for 1996, 1997, 1998 was used to create average baseline indicators for this Chartbook. Three years were combined and averaged to give stable rates. The BRFSS is sponsored by the Centers for Disease Control and Prevention (CDC) and is the largest, continuously conducted telephone health survey in the world. ⁸ It is a state-based surveillance system conducted by health departments in all 50 states. ⁹ The BRFSS provides data for many purposes including:

- Assessing risks for chronic disease
- Identifying demographic differences and trends in health related behavior
- Designing and monitoring health interventions
- Addressing emergent and critical health issues
- Allowing states to monitor statewide trends as well as make national comparisons

The BRFSS is a telephone survey. Adults over age 18 who live in households with a phone are randomly selected for an interview. This selection process results in a representative sample from each state so that statistical inferences can be made about the entire adult population of each state from information collected from the sample.

In Rhode Island (RI) about 1800 adults are interviewed each year. The Rhode Island BRFSS is conducted by a professional survey research firm. The BRFSS is overseen by the Office of Health Statistics, Rhode Island Department of Health. Through an Interagency Agreement the Health Department provides public health data sets to the Department of Human Services (DHS). DHS has created a Medicaid Data Archive that provides the resources to oversee and analyze these data sets.

Technical Notes

The major limitation of the BRFSS is that households without telephones are excluded. Therefore some of the poorest households (i.e., those without phones) may be excluded. It is expected that this report underestimates the population on Medicaid because of this phone bias. In addition, Medicaid is probably underestimated because of the high proportion of minorities and people with disabilities on the program. These groups have low response rates to surveys.

This chartbook compares private, Medicaid and uninsured insurance groups by health outcomes. Reported data is on working aged adults ages 18-64 because this is the population of interest for new health programs for the uninsured and Medicaid recipients. In Rhode Island 2070 adults ages 18 – 64 were interviewed in 1996, 1433 in 1997 and 2879 in 1998. Of the total RI population interviewed 302 were on Medicaid, 667 were uninsured and 4,752 were on private insurance

The sample interviewed and the annual population estimate for these three groups is listed below.

<u>Tota</u> <u>Unwei</u> <u>Random Sa</u>	_	3 year average 1996-98 Weighted to RI Population Ages 18 - 64
Private	4,752	469,647
Medicaid	302	17,216
Uninsured	667	61,518
Medicare	390	30,679
Other Government	94	9,897
Other/Unknown	<u>177</u>	17,955
TOTAL	6,382	606,822

Appendix 2 gives the distribution of each year by insurance status for the sample and population estimates. All of the graphics in the chartbook report the weighted RI population estimates. Rates are based on fifty or more cases. Several health access measures could not be included because the Medicaid sample was too small (e.g., cholesterol, blood pressure, flu shot, pneumonia vaccine and alcohol use)

Appendix 3 explains the reliability of the estimates contained in the report.

Appendix 4 shows how the insurance categories of Private, Medicaid and Uninsured were created from the BRFSS variables.

Findings

There are several key findings this Chartbook displays.

- The sociodemographic characteristics of Rhode Islanders on Medicaid show that they are more vulnerable for poor health outcomes, than those privately insured or uninsured, for poor health outcomes. Medicaid recipients are more likely to belong to a minority group, have less than a high school education, live in poverty and be unemployed. These factors are all associated with low income which is a major eligibility criteria for Medicaid.
- Uninsured Rhode Islanders are similar to both the privately insured and Medicaid recipients. Their age, gender, education, marital status and income is comparable to Medicaid recipients. However their race and employment status is similar to the privately insured.

- Despite their high risk status the rates of primary care and preventive screening among Rhode Islanders on Medicaid are similar to the privately insured. In fact, on some screening measures Medicaid rates are higher than private rates (e.g., getting routine check up, pap smear, mammography and HIV screening) This shows that as a result of their coverage, Medicaid recipients have equal access to care.
- Access to health care for the uninsured is poor and needs improvement. On every measure of primary care and preventive screening the uninsured have the lowest rates. They do not have access to health care so they are less likely to receive health care services.
- Rhode Islanders on Medicaid have the poorest overall health status and highest rates of disability. This reflects the eligibility criteria for the Medicaid program. Medicaid recipients are significantly more likely to have physical and mental disability days, live in pain, feel depressed, be limited due to health problems and have chronic diseases.

References

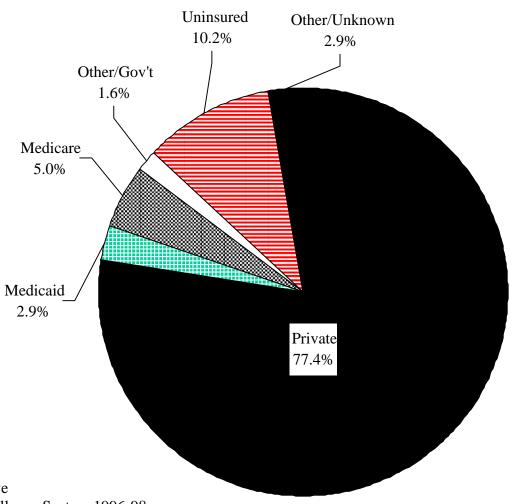
- 1. Iglehart J. "Insurance Coverage: Tumult and Transformation" Health Affairs, 18 (2):6, 1999.
- 2. Gold M. Evaluating State Health Coverage Expansions DC: Mathematica Policy Research, February 2000
- 3. Nolan P. "Health Care Coverage for Low-Income, Working Age Rhode Islanders is Eroding" <u>Health Policy Brief</u>, Rhode Island Department of Health, 98(7): September 1998
- 4. Center for Disease Control "Age and State Prevalence Estimates of Insured and Uninsured Persons United States 1995-96." Morbidity Mortality Weekly Report, July 3, 1998.
- 5. Shumway D. "Health Insurance Coverage and the Uninsured in New Hampshire: Results from the New Hampshire Insurance Coverage and Access Survey" NH: Department of Health and Human Services, November 1999.
- 6. Ayarian J, Kohler B, Abe T, Epstein A. "The Relation Between Health Insurance Coverage and Clinical Outcomes Among Women with Breast Cancer" New England Journal of Medicine 329(5): 326-331, 1993.
- 7. Lave J, Keane C, Lin C, Ricci E, Amersbach G, Lavallee C. "Impact of a Children's Health Insurance Program on Newly Enrolled Children" Journal of American Medical Association 279 (22):1820-1825, 1998.
- 8. Center for Disease Control, <u>Health Risks in America Gaining Insight from the Behavioral Risk Factor Surveillance System</u> USDHHS: 1998
- 9. Center for Disease Control, <u>Assessing Health Risks in America The Behavioral Risk Factor Surveillance System</u>, <u>www.cdc.gov/nccdphp/brfss</u>, 2000.
- 10. Spillmar B "Adults Without Health Insurance: Do State Policies Matter?" Health Affairs 19(4):178-187, 2000.

Chart 1-1

Health Insurance Status Rhode Islanders Ages 18-64

- Since health insurance is the major focus of this Chartbook the overall insurance distribution for Rhode Islanders is shown below.
- The majority of Rhode Islanders have private insurance through employers (77.4%).
- Ten percent of Rhode Islanders, ages 18-64, are uninsured. This represents approximately 60,000 people.

Chart 1-1
Health Insurance Status
Rhode Islanders Ages 18-64



Data Source: Medicaid Data Archive

Behavioral Risk Factor Surveillance System 1996-98 average

RI Department of Health

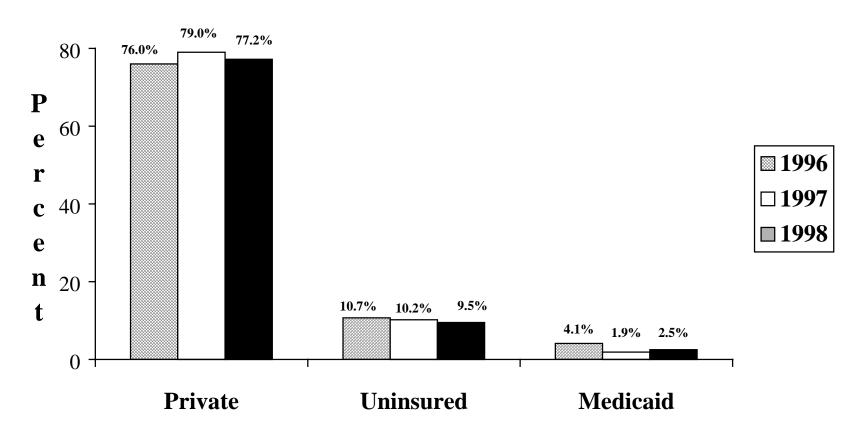
(Population N=606.822/Sample n=6.382)

Chart 1-2

Changes in Health Insurance Status 1996-98 Rhode Islanders Ages 18-64

- From 1996 to 1998 Rhode Islanders with private insurance increased slightly from 76.0% to 77.2%.
- From 1996 to 1998 Rhode Islanders on Medicaid declined slightly from 4.1% to 2.6%. Due to small sample numbers the Medicaid rate fluctuates from year to year. The estimate however, is close to the national percent of 4.3% of Americans on Medicaid.¹⁰
- From 1996 to 1998 Rhode Islanders without health insurance declined slightly from 10.7% to 9.5%.

Chart 1-2
Changes in Health Insurance Status
Rhode Islanders Ages 18-64



Data Source: Medicaid Data Archive

Behavioral Risk Factor Surveillance System 1996-98

RI Department of Health

Total n interviewed/Private = 4,752, Medicaid = 302, Uninsured = 667

SECTION 2:

CHARACTERISTICS OF RHODE ISLANDERS

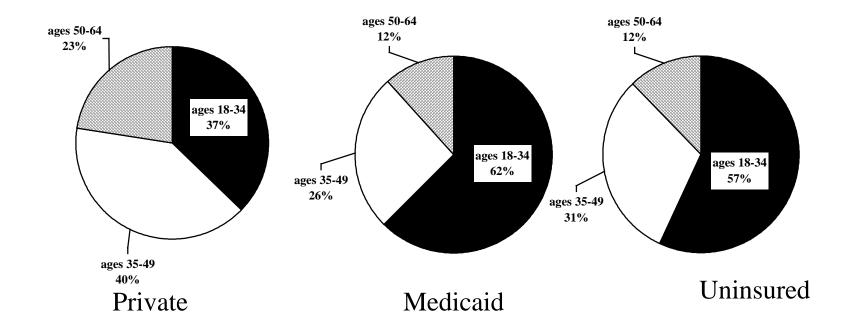
Chart 2-1

Age Distribution Rhode Islanders Ages 18-64 by Insurance Status

• The age distribution of the Medicaid and Uninsured groups are similar. They are predominately young, almost 75% are less than 35 years old, whereas only 60% of Rhode Islanders with private insurance are less than 35 years old.

Chart 2-1 Age Distribution

Rhode Islanders Ages 18-64 by Insurance Status



Data Source: Medicaid Data Archive

Behavioral Risk Factor Surveillance System 1996-98 average

RI Department of Health

Total n interviewed/Private = 4.752. Medicaid = 302. Uninsured = 667.

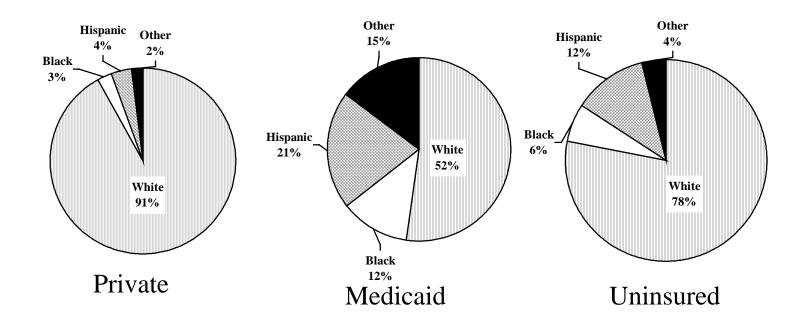
Chart 2-2

Race/Ethnic Distribution Rhode Islanders Ages 18-64 by Insurance Status

- The racial distribution among the three insurance groups is significantly different
- Medicaid has the highest percentage of minority groups. Almost 50% of the Medicaid population is in a minority group whereas only 22% of the uninsured are members of minority groups and only 9% of privately insured individuals are in minority groups.
- Hispanics are the largest minority group within each insurance category with 4% in private; 12% in uninsured and 21% in Medicaid.

Chart 2-2
Race/Ethnic Distribution

Rhode Islanders Ages 18-64 by Insurance Status



Data Source: Medicaid Data Archive

Behavioral Risk Factor Surveillance System 1996-98 average

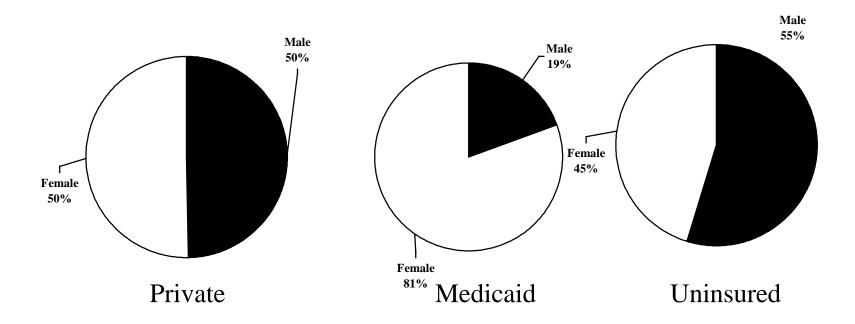
Chart 2-3

Gender Distribution Rhode Islanders Ages 18-64 by Insurance Status

- The Uninsured group has the highest percent of males. Males make up highest percentage of uninsured at 55%
- The Medicaid Insurance group is 80% female, representing the high proportion of women in the RIte Care Medicaid's managed care program. From 1996-98 RIte Care represented about 65% of the adult population on Medicaid.

Chart 2-3
Gender Distribution

Rhode Islanders Ages 18-64 by Insurance Status



Data Source: Medicaid Data Archive

Behavioral Risk Factor Surveillance System 1996-98 average

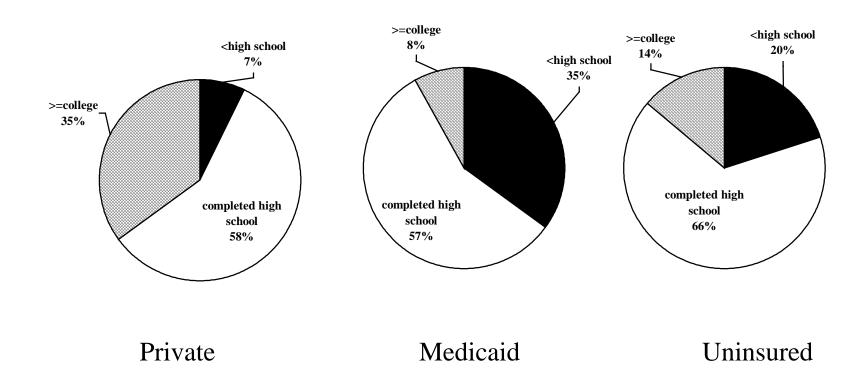
Chart 2-4

Education Level Rhode Islanders Ages 18-64 by Insurance Status

- The education level differs significantly across insurance types.
- Eight percent of Medicaid recipients have finished college whereas 14% of the uninsured have finished college and 35% of the privately insured have finished college.
- Medicaid has the highest percent of recipients who have not finished high school. Thirty-five percent of Medicaid recipients have not finished high school.

Chart 2-4 Education Level

Rhode Islanders Ages 18-64 by Insurance Status



Data Source: Medicaid Data Archive

Behavioral Risk Factor Surveillance System 1996-98 average

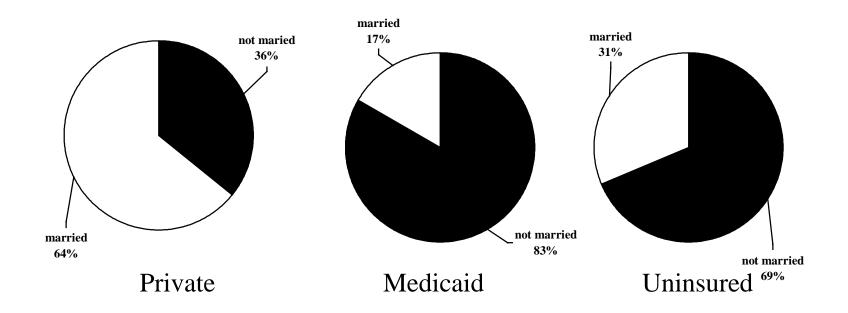
Chart 2-5

Marital Status Rhode Islanders Ages 18-64 by Insurance Status

• The Uninsured and Medicaid groups have a similar Marital distribution. A high percentage are not married – 69% for uninsured and 83% for Medicaid.

Chart 2-5
Marital Status

Rhode Islanders Ages 18-64 by Insurance Status



Data Source: Medicaid Data Archive

Behavioral Risk Factor Surveillance System 1996-98 average

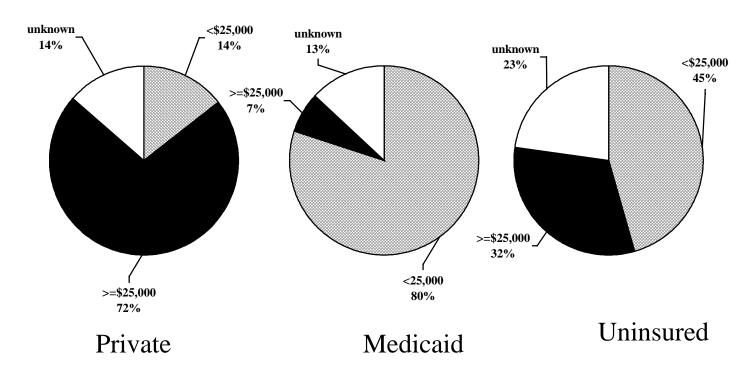
Chart 2-6

Income Distribution Rhode Islanders Ages 18-64 by Insurance Status

• Medicaid has the highest percentage of poverty with 80% of the households making less than \$25,000 a year. In contrast only 14% of the privately insured households make less than \$25,000 a year.

Chart 2-6
Income Distribution

Rhode Islanders Ages 18-64 by Insurance Status



Data Source: Medicaid Data Archive

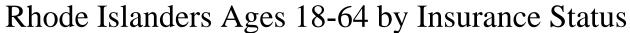
Behavioral Risk Factor Surveillance System 1996-98 average

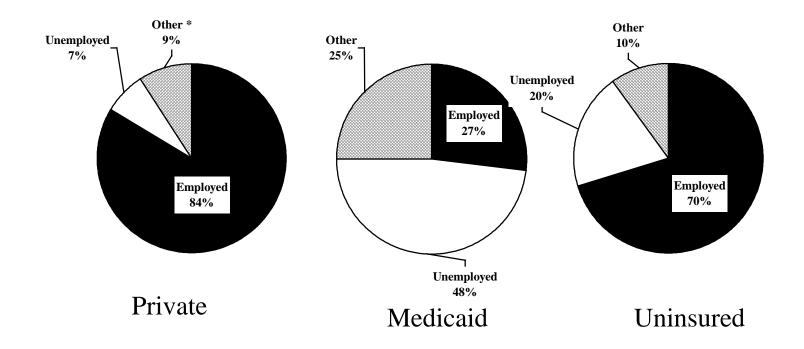
Chart 2-7

Employment Status Rhode Islanders Ages 18-64 by Insurance Status

- Employment status varies great across the insurance groups. Almost 50% of the Medicaid group is unemployed, whereas 20% of the uninsured and only 7% of the privately insured are unemployed.
- Seventy percent of uninsured are employed showing that access to health insurance is a problem for working Rhode Islanders.

Chart 2-7
Employment Status





Data Source: Medicaid Data Archive

Behavioral Risk Factor Surveillance System 1996-98 average

^{*} Other = student homemaker retired

SECTION 3:

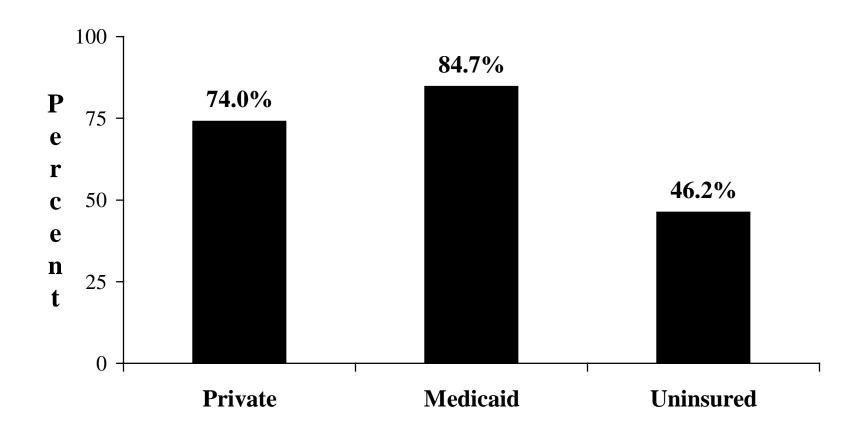
ACCESS TO HEALTH CARE AND PREVENTIVE HEALTH SERVICES

Chart 3-1

Had a Routine Check-up in the Past Year Rhode Islanders Ages 18-64 by Insurance Status

- Uninsured Rhode Islanders are the least likely to have had a routine check-up in the past year. Only 46.2% of the uninsured had a check up compared to 74.3% for privately insured and 85% for Medicaid.
- Medicaid recipients are the most likely group to have had a check-up in the past year.

Chart 3-1
Had a Routine Check-up in the Past Year
Rhode Islanders Ages 18-64 by Insurance Status



Data Source: Medicaid Data Archive

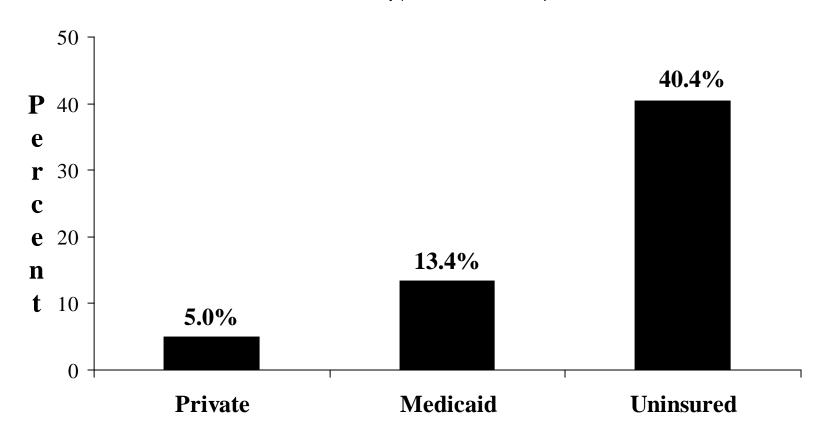
Behavioral Risk Factor Surveillance System 1996-98 average

Chart 3-2

Could Not See a Doctor Due to Cost Rhode Islanders Ages 18-64 by Insurance Status

- Uninsured Rhode Islanders are eight times more likely to not see a doctor due to cost than Rhode Islanders with private insurance.
- Cost is a significant barrier to medical care for Rhode Islanders without insurance. Forty percent of the uninsured could not see a doctor due to cost.

Chart 3-2
Could Not See a Doctor Due to Cost
Rhode Islanders Ages 18-64 by Insurance Status



Data Source: Medicaid Data Archive

Behavioral Risk Factor Surveillance System 1996-98 average

Chart 3-3

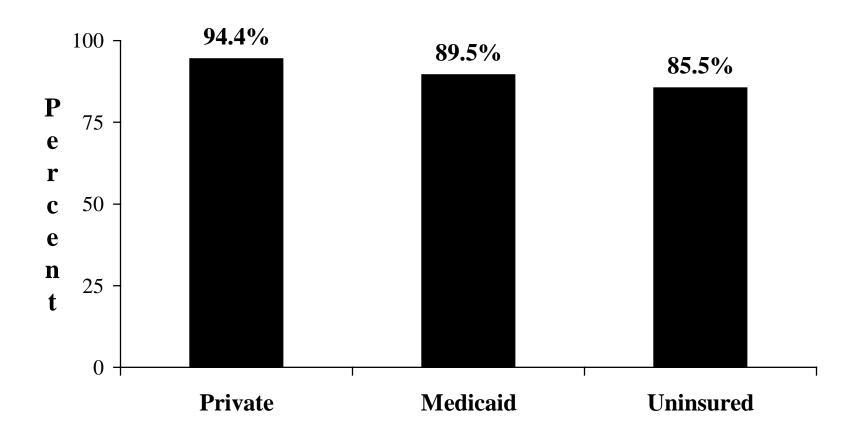
Ever Had a Pap Smear Rhode Islander Families Ages 18-64 by Insurance Status

• Cervical cancer screening is the highest preventive service received by Rhode Island women. Ninety-four percent of women with private insurance had a pap smear. Women on Medicaid had an equally high rate of cervical cancer screening at 89.5%. Uninsured women had the lowest rate of pap smear screening at 85.5%, although this rate is still very high.

Chart 3-3

Ever Had a Pap Smear

Rhode Island Women Ages 18-64 by Insurance Status



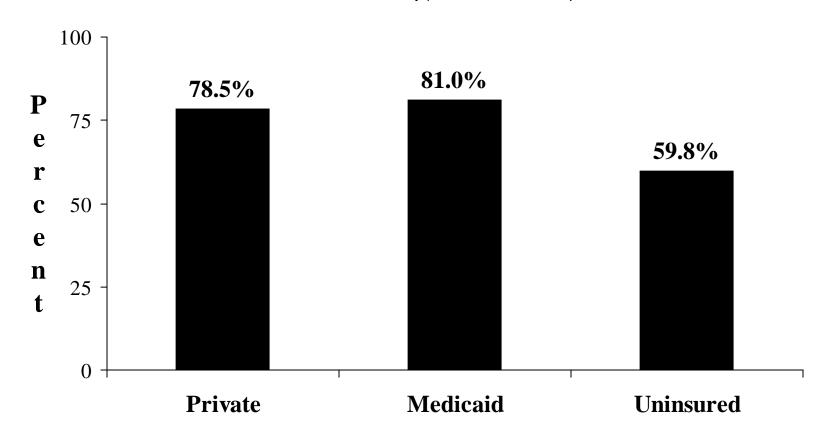
Behavioral Risk Factor Surveillance System 1996-98 average

Chart 3-4

Had a Pap Smear in the Past Year Rhode Island Women Ages 18-64 by Insurance Status

- Uninsured women are almost 1.5 times less likely than women on Medicaid to have had a pap smear in the past year.
- Women on Medicaid had the highest rate of being screened for cervical cancer in the past year. Eighty-one percent of women on Medicaid, who had ever had a pap smear, had one in the past year.

Chart 3-4
Had a Pap Smear* in the Past Year
Rhode Island Women Ages 18-64 by Insurance Status



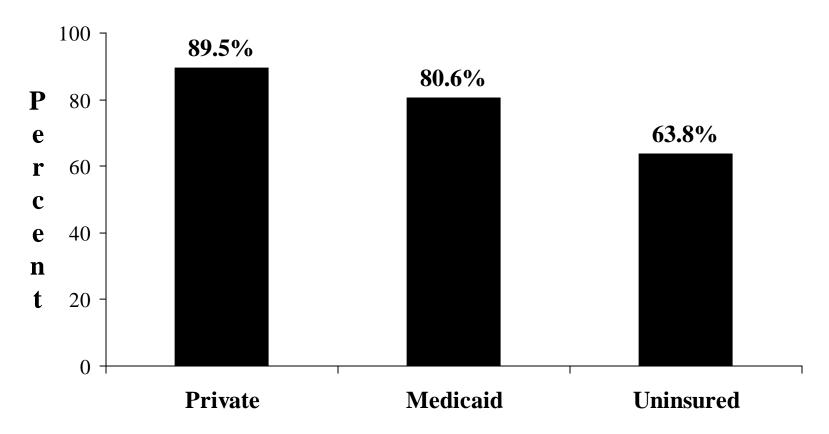
Behavioral Risk Factor Surveillance System 1996-98 average

Chart 3-5

Ever Had a Mammogram Rhode Island Women Ages 40-64 by Insurance Status

• For Rhode Island women ages 40-64 insurance status is related to having a mammogram. Privately insured women are 1.5 times more likely than uninsured women to ever have had a mammogram. Only 63.8% of uninsured women who should have a mammogram got this screening test; compared to almost 90% of privately insured women and 81% of women on Medicaid.

Chart 3-5
Ever Had a Mammogram
Rhode Island Women Ages 40-64 by Insurance Status



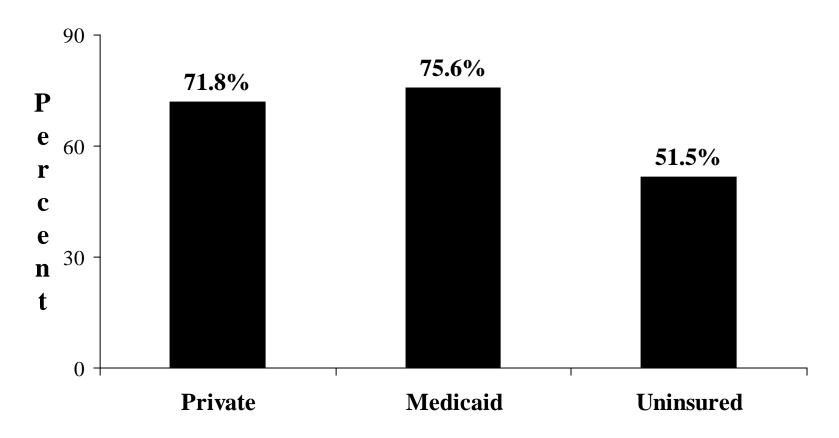
Behavioral Risk Factor Surveillance System 1996-98 average

Chart 3-6

Had Mammogram in the Past Year Rhode Island Families Ages 40-64 by Insurance Status

- For those women who ever had a mammogram, women on Medicaid were the most likely to have had the screening exam in the past year. Seventy-six percent of women Medicaid recipients had a mammogram in the past year.
- Uninsured women were the least likely to have a mammogram, only 52% had a mammogram.

Chart 3-6
Had a Mammogram* in the Past Year
Rhode Island Women Ages 40-64 by Insurance Status



Behavioral Risk Factor Surveillance System 1996-98 average

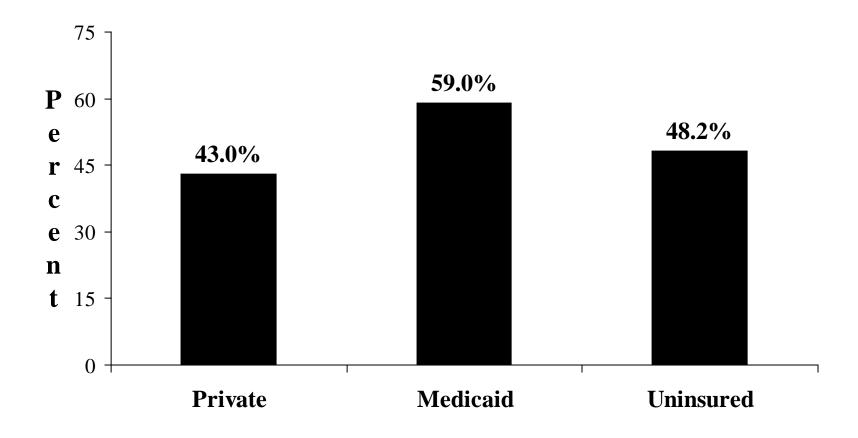
^{*} Of those women who ever had a mammogram

Chart 3-7

Ever Had Blood Tested for HIV Rhode Islanders Ages 18-64 by Insurance Status

• Medicaid recipients are more likely than uninsured or privately insured to have had a blood test for HIV.

Chart 3-7
Ever Had Blood Tested for HIV
Rhode Islanders Ages 18-64 by Insurance Status



Behavioral Risk Factor Surveillance System 1996-98 average

SECTION 4:

TOBACCO USE

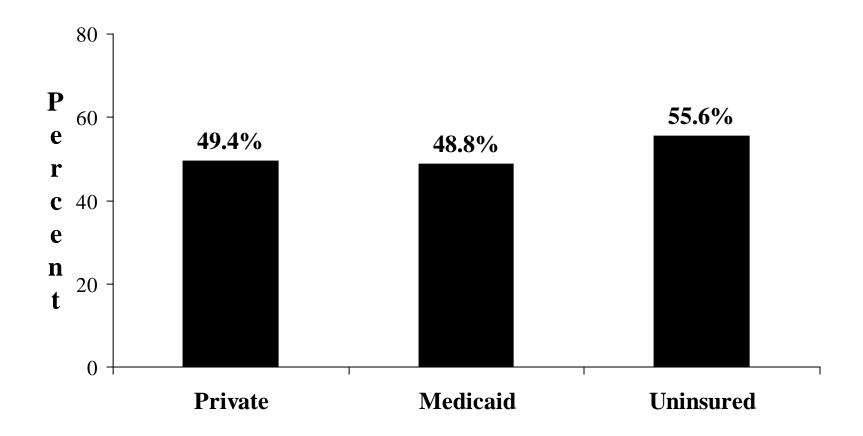
Chart 4-1

Ever Smoked Cigarettes

Rhode Islanders Ages 18-64 by Insurance Status

- Tobacco use is associated with increased risk for several chronic diseases.
- The highest rate of smoking is among the uninsured. Fifty six percent (55.6%) of the uninsured have ever smoked compare to 49% for the privately insured and Medicaid.

Chart 4-1
Ever Smoked Cigarettes
Rhode Islanders Ages 18-64 by Insurance Status



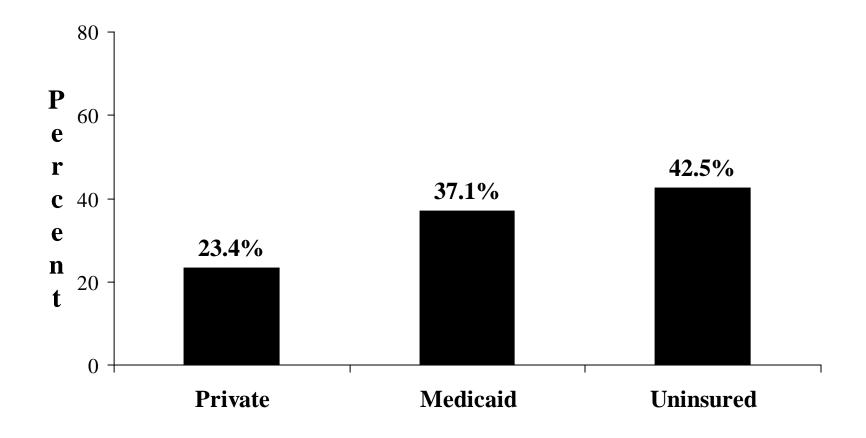
Behavioral Risk Factor Surveillance System 1996-98 average

Chart 4-2

Currently Smoke Cigarettes Rhode Islanders Ages 18-64 by Insurance Status

• The uninsured are about two times more likely to currently smoke than the privately insured. Twenty three percent (23.4%) of privately insured currently smoke, where as 43% of the uninsured smoke.

Chart 4-2
Currently Smoke Cigarettes
Rhode Islanders Ages 18-64 by Insurance Status



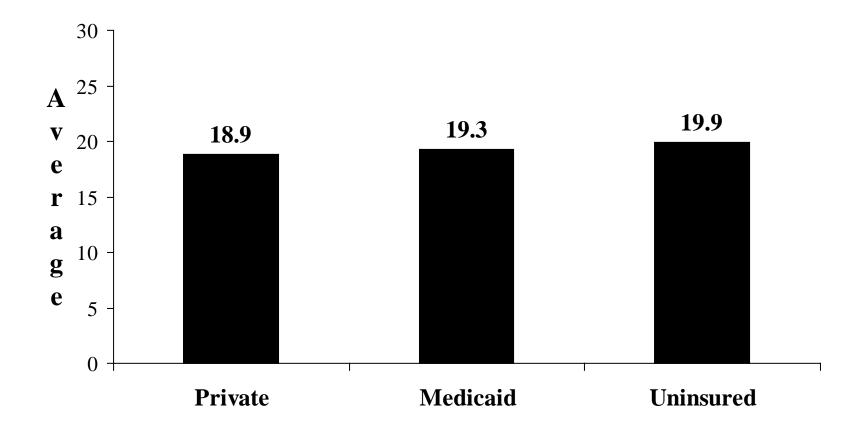
Behavioral Risk Factor Surveillance System 1996-98 average

Chart 4-3

Average Number Of Cigarettes Smoked Per Day Rhode Islanders Ages 18-64 by Insurance Status

• Among smokers the average cigarettes smoked per day is almost the same – approximately 19 cigarettes or a pack a day is smoked by all insurance groups.

Chart 4-3
Average Number of Cigarettes Smoked Per Day*
Rhode Islanders Ages 18-64 by Insurance Status



Behavioral Risk Factor Surveillance System 1996-98 average

^{*}of those who smoke everyday

SECTION 5:

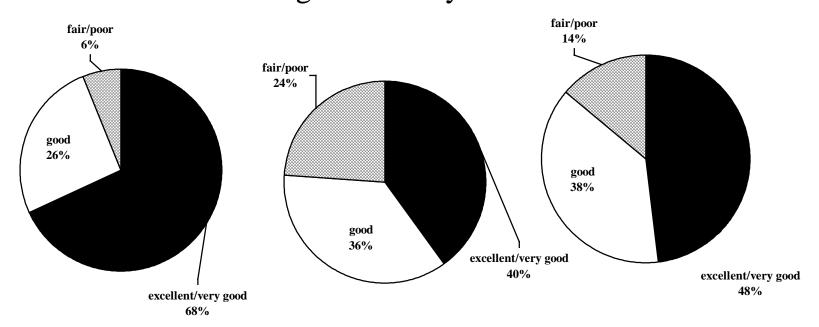
HEALTH STATUS AND DISABILITY

Health Status Rhode Islanders Ages 18-64 by Insurance Status

- Rhode Islanders with private insurance are 1.7 times more likely than Rhode Islanders on Medicaid to report that their health status is excellent or very good.
- Medicaid recipients report the worst health status. Twenty-four percent or 1 in 4 Rhode Islanders on Medicaid report poor or fair health status.

Chart 5-1
Health Status

Rhode Islanders Ages 18-64 by Insurance Status



Private Medicaid Uninsured

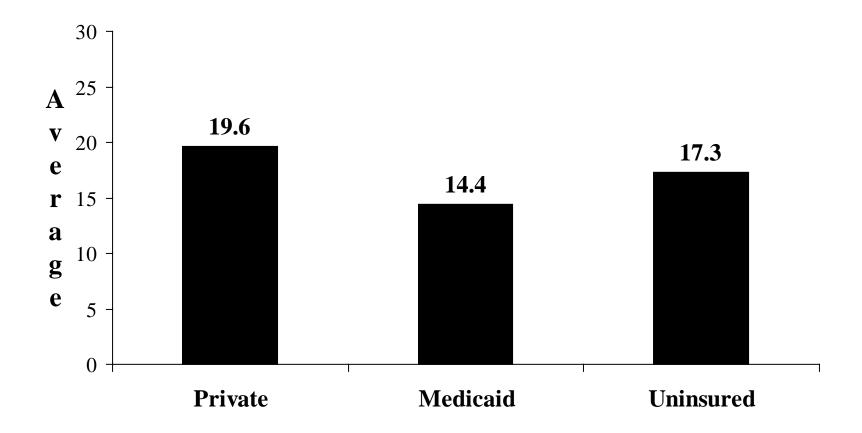
Data Source: Medicaid Data Archive

Behavioral Risk Factor Surveillance System 1996-98 average

Average Days in Past Month Felt Healthy and Full of Energy Rhode Islanders Ages 18-64 by Insurance Status

• Medicaid recipients have the lowest average number of days where they feel healthy. On average Rhode Islanders on Medicaid feel healthy 14 days per month compared to 17 days for the uninsured and 19 days for the private insurance group.

Chart 5-2
Average Days in Past Month Felt Healthy and Full of Energy



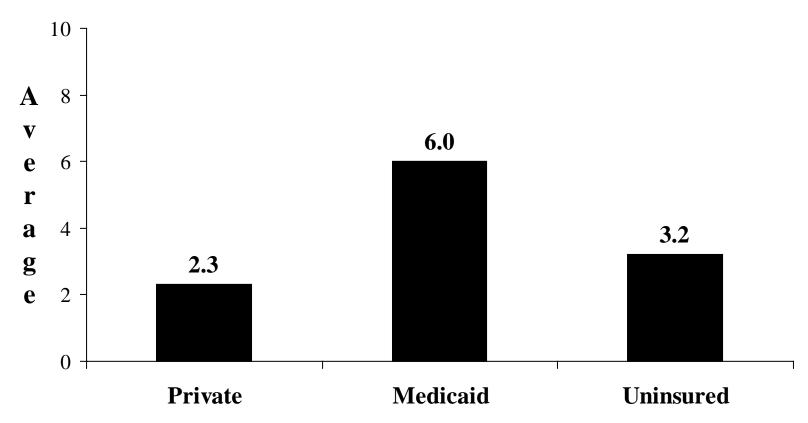
Behavioral Risk Factor Surveillance System, 1997-98 only

Average Days in Past Month Physical Health Not Good Rhode Islanders Ages 18-64 by Insurance Status

- On average Rhode Islanders on Medicaid have six days a month when their physical health is not good.
- Medicaid recipients have a 2.5 times higher rate than privately insured persons when their physical health is not good.

Chart 5-3
Average Days in Past Month
Physical Health Not Good

Rhode Islanders Ages 18-64 by Insurance Status



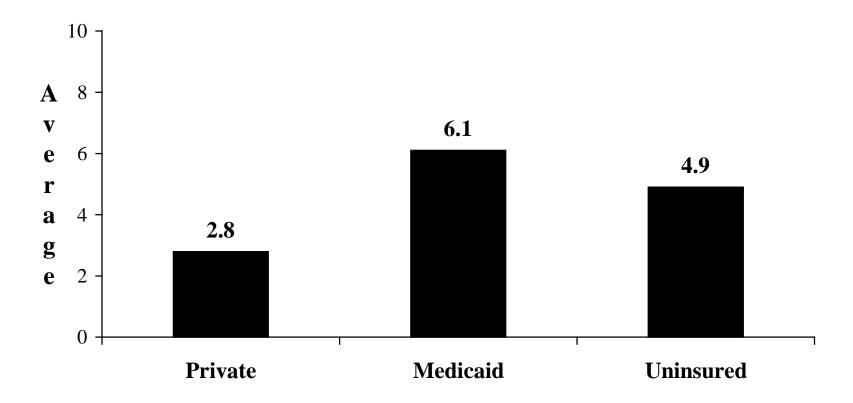
Data Source: Medicaid Data Archive

Behavioral Risk Factor Surveillance System, 1996-98

Average Days in Past Month Mental Health Not Good Rhode Islanders Ages 18-64 by Insurance Status

• Medicaid recipients have more days where their mental health is not good. On average they have 6 days a month when their mental health is not good.

Chart 5-4
Average Days in Past Month
Mental Health Not Good



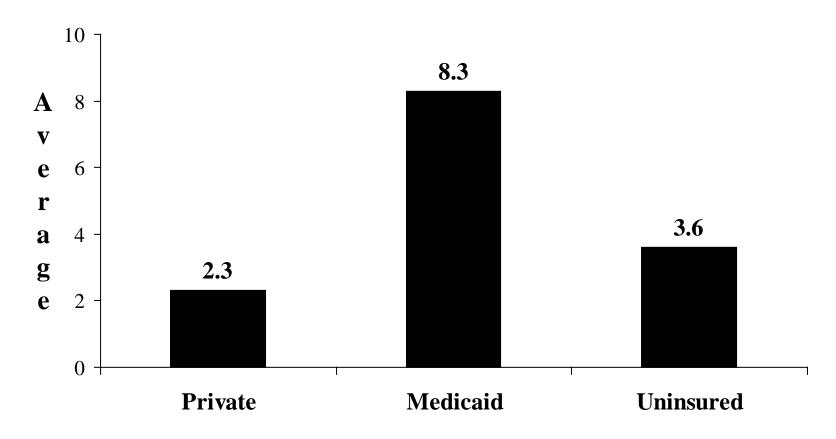
Behavioral Risk Factor Surveillance System, 1996-98

Average Days in Past Month Physical and Mental Health Kept From Usual Activities

Rhode Islanders Ages 18-64 by Insurance Status

- Medicaid recipients are more likely to be kept from their usual activities when their physical or mental health is not good.
- Rhode Islanders on Medicaid are kept from their usual activities due to poor physical or mental health over a week a month (on average 8 days). This rate is 4 times higher than privately insured Rhode Islanders.

Chart 5-5
Average Days in Past Month
Physical and Mental Health Kept from Usual Activities

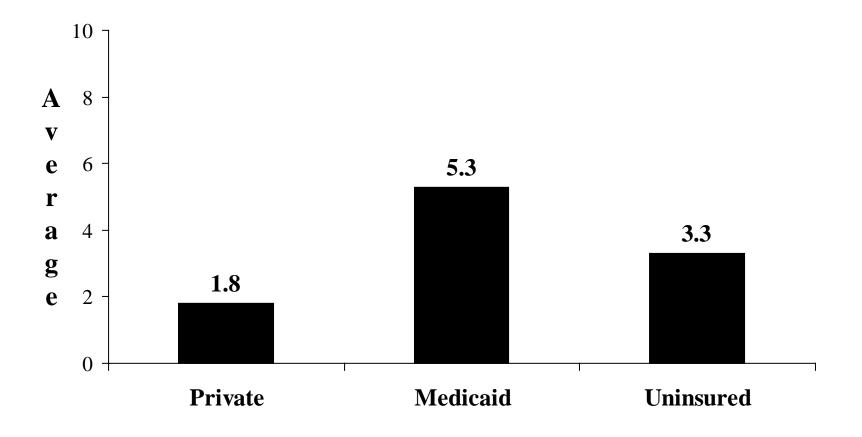


Behavioral Risk Factor Surveillance System, 1996-98

Average Days in Past Month Pain Made it Hard to do Usual Activity Rhode Islanders Ages 18-64 by Insurance Status

- Medicaid recipients live in more pain than other insurance groups. Their rate of pain is 3 times higher than the privately insured.
- On average Rhode Islanders on Medicaid have five days a month of pain that keeps them from their usual activity.

Chart 5-6
Average Days in Past Month
Pain Made it Hard to do Usual Activity

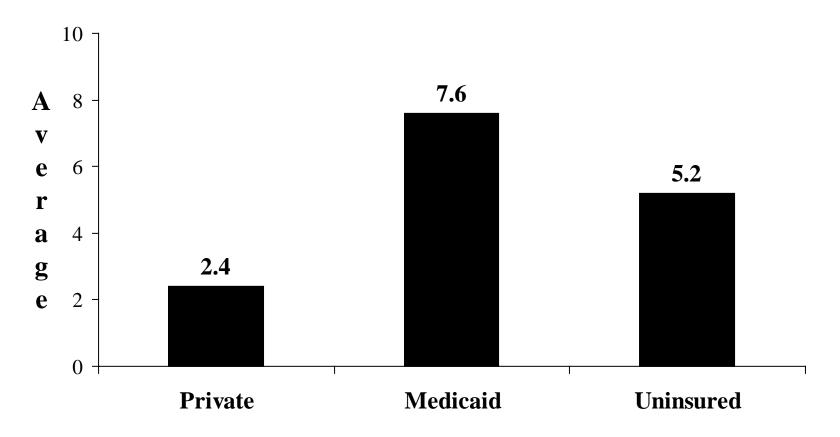


Behavioral Risk Factor Surveillance System, 1997-98

Average Days in Past Month Felt Sad, Blue or Depressed Rhode Islanders Ages 18-64 by Insurance Status

- Medicaid recipients are 3 times more likely to feel sad, blue or depressed.
- On average Rhode Islanders on Medicaid are sad, blue or depressed 7.6 days a week compared to 2.4 days a week for the privately insured.

Chart 5-7
Average Days in Past Month
Felt Sad, Blue or Depressed

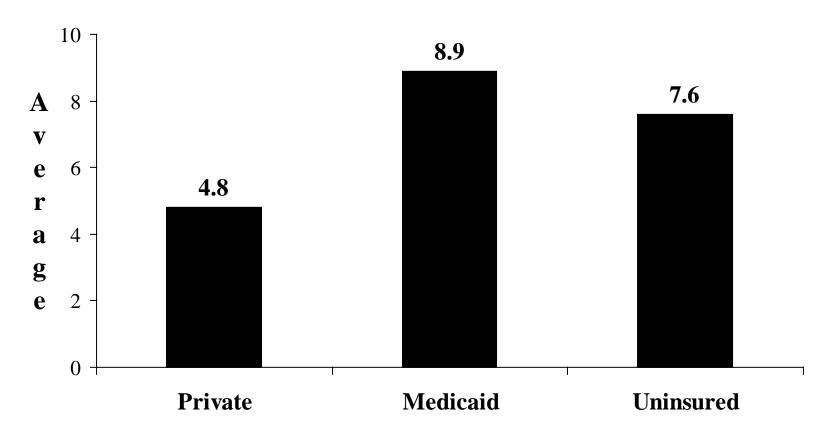


Behavioral Risk Factor Surveillance System, 1997-98

Average Days in Past Month Felt Worried, Tense or Anxious Rhode Islanders Ages 18-64 by Insurance Status

- Medicaid recipients have the highest rate of feeling worried, tense or anxious compared to other insurance groups.
- On average Medicaid recipients feel worried, anxious or tense almost 9 days a month.

Chart 5-8
Average Days in Past Month
Felt Worried, Tense or Anxious
Rhode Islanders Ages 18-64 by Insurance Status



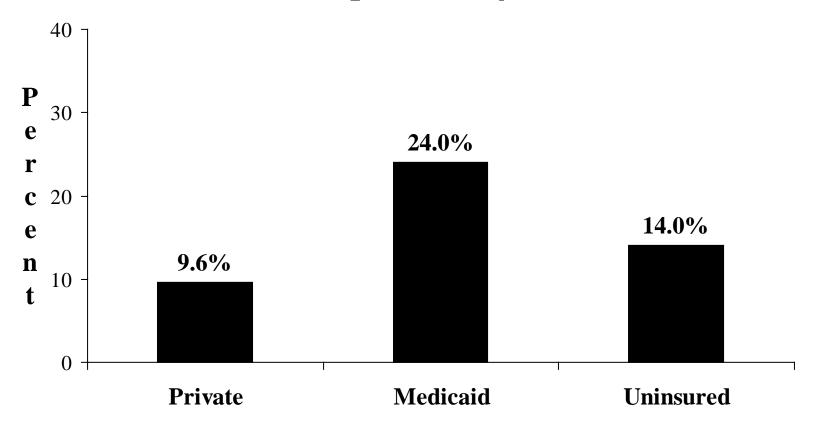
Behavioral Risk Factor Surveillance System, 1997-98

Limited Because of Impairment or Health Problem Rhode Islanders Ages 18-64 by Insurance Status

- Almost 1 in 4 Rhode Islanders on Medicaid are limited because of an impairment or health problem.
- Twenty-four percent of Medicaid recipients are limited by impairment compared to 14% for uninsured and 10% for privately insured.

Chart 5-9
Limited Because of Impairment or Health Problem

Rhode Islanders Ages 18-64 by Insurance Status



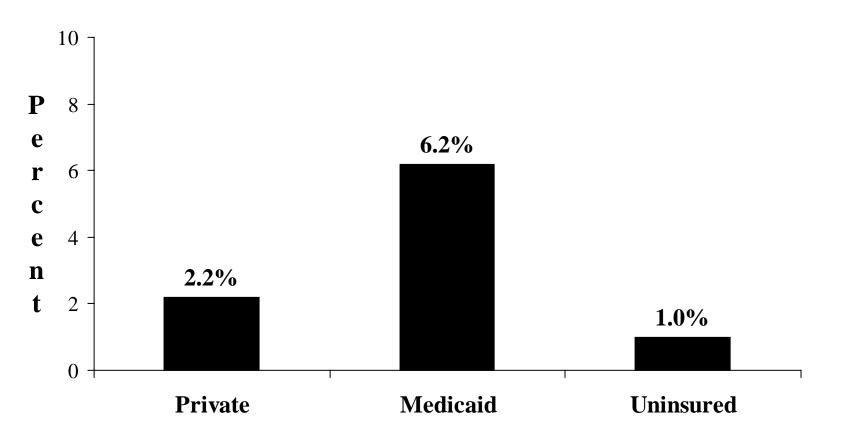
Data Source: Medicaid Data Archive

Behavioral Risk Factor Surveillance System, 1997-98

Ever Told By Doctor You Have Diabetes Rhode Islanders Ages 18-64 by Insurance Status

• The rate of chronic disease is higher among Medicaid recipients. Six percent of Medicaid recipients have diabetes compared to 2% for privately insured and 1% for uninsured.

Chart 5-10
Ever Told By Doctor You Have Diabetes
Rhode Islanders Ages 18-64 by Insurance Status



Behavioral Risk Factor Surveillance System, 1996-98

APPENDIX 1 DIVISION OF HEALTH CARE QUALITY, FINANCING AND PURCHASING EVALUATION STUDIES WORKGROUP MEMBER LIST – 2000

Susan Allen, PhD Associate Professor Center for Gerontology and Health Care Research Department of Community Health Brown University Box G-B213 Providence, RI 02912

Phone: 863-3818 Fax: 863-3489

E-mail: Susan_Allen@brown.edu

Jay Buechner, PhD Chief Office of Health Statistics Rhode Island Department of Health 3 Capitol Hill, Room 407 Providence, RI 02908-4350

Phone: 222-2550 Fax: 273-4350

E-mail: jay buechner@health.state.ri.us

Jane Griffin, MPH (Chair)
Project Director, Research & Evaluation
MCH Evaluation, Inc.
Department of Human Services
600 New London Avenue
Cranston, RI 02920

Phone: 462-6330 Fax: 462-6353

E-mail: <u>Jane_Griffin@brown.edu</u> <u>Jgriffin@gw.dhs.state.ri.us</u>

Rick Jacobsen, PhD*
Deputy Project Director
Birch and Davis Health Management Corp.
Department of Human Services
600 New London Avenue
Cranston, RI 02920

Phone: 462-6357 Fax: 462-6353

E-mail: Rjacobse@gw.dhs.state.ri.us

Tricia Leddy, MS*
Administrator
Center of Child and Family Health
Department of Human Services
600 New London Avenue
Cranston, RI 02920

Phone: 462-2127 Fax: 943-7218

E-mail: TriciaL@gw.dhs.state.ri.us

Christine Payne, PhD Health Services Researcher MCH Evaluation, Inc. Center of Child and Family Health Department of Human Services 600 New London Avenue Cranston, RI 02920

Phone: 462-6358 Fax: 462-6353

E-mail: Cpayne@gw.dhs.state.ri.us

Frank Spinelli, MA* Administrator Center for Adult Health Department of Human Services 600 New London Avenue Cranston, RI 02920

Phone: 462-1869 Fax: 464-3496

E-mail: Fspinell@gw.dhs.state.ri.us

Patrick Vivier, MD, PhD Assistant Professor of Pediatrics and Community Health Brown University Division of Ambulatory Pediatrics Rhode Island Hospital 593 Eddy Street Providence, RI 02903 Phone: 444-4739 Fax: 444-7351

E-mail: Patrick_Vivier@brown.edu

Bill White, MPH*
Project Director
Birch and Davis Health Management Corp.
Department of Human Services
600 New London Avenue
Cranston, RI 02920

Phone: 462-2488 Fax: 943-7218

E-mail: bwhite@gw.dhs.state.ri.us

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APPENDIX 2

Distribution of Unweighted Sample Counts and Weighted Population Estimates Of Rhode Islanders Ages 18 – 64 by Insurance Status 1996 – 1998 from the BRFSS

UNWEIGHTED COUNTS

	1996		1997		1998	
	Ages 18 -64	Percent	Ages 18 -64	Percent	Ages 18 -64	Percent
Private	1,405	67.9	1120	78.2	2,227	77.4
Medicare	120	5.8	65	4.5	205	7.1
Medicaid	175	8.5	39	2.7	88	3.1
Uninsured	276	13.3	145	10.1	246	8.5
Other gov't	39	1.9	18	1.3	37	1.3
Other	34	1.6	31	2.2	59	2.0
Unknown/ Refused	21	1.0	15	1.0	17	0.6

WEIGHTED ESTIMATES

	1996		1997		1998		
	Ages 18 -64	Percent	Ages 18 -64	Percent	Ages 18 -64	Percent	
Private	474,827	76.0	471,024	79.0	463,090.8	77.2	
Medicare	30,009	4.8	23,483	3.9	38,544.15	6.4	
Medicaid	25,470	4.1	11,421	1.9	14,757.5	2.5	
Uninsured	66,983	10.7	60,569	10.2	57,000.74	9.5	
Other gov't	13,128	2.1	7,870	1.3	8,692.97	1.4	

Other	6,744	1.1	13,906	2.3	13,907.5	2.3
Unknown/	7,470	1.2	7,980	1.3	3,858.24	0.6
Refused						

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APPENDIX 3 Reliability of Estimates

Sampling error or chance variation can cause the results of the RI BRFSS to vary from those that would have been obtained with a survey of all Rhode Islanders. The width of the confidence interval placed around the sample figure varies according to several factors. The more confident we want to be in our estimate, or the smaller the sample on which the estimate is based, or the less unanimous respondents are in their answers to a given question, the wider the confidence interval must be. The table below lists the confidence intervals to be placed around the sample estimate for the proportion of the RI population with a given attribute in order to be 95% certain that the true estimate lies within that interval.

Confidence Intervals to Allow for Sampling Error (95% Confidence)

Sample Size	Where Sample Estimate is Approximately						
(n)	10% or 90%	20% or 80%	30% or 70%	40% or 60%	50%		
1000	1.9	2.5	2.8	3.0	3.1		
750	2.1	2.9	3.3	3.5	3.6		
600	2.4	3.2	3.7	3.9	4.0		
500	2.6	3.5	4.0	4.3	4.4		
400	2.9	3.9	4.5	4.8	4.9		
100	5.9	7.8	9.0	9.6	9.8		
50	8.3	11.1	12.7	13.6	13.9		

Numbers in table are percentage points to be added to/subtracted from sample estimates of population percentages in order to be "95% certain" that the figure for the whole population actually falls within the interval

APPENDIX 4 Insurance Categories

The Insurance categories for this Chartbook were created using four consecutive questions from the BRFSS.

- Q1. Do your have any kind of health care coverage, including health insurance, preparid palsn such as HMOs or government plans such as Medicare (HLTH PLAN)
 - 1 = yes (ask Q 2)
 - 2 = no (skip to Q 4)
- Q2. Medicare is a coverage plan for people 65 or over and for certain disabled people. Do you have Medicare (MEDICARE)
 - 1 = yes (skip to Q 5)
 - 2 = no (ask Q 3)
- Q3 What type of health coverage do you use to pay for most of your medical care (TYPCOVR1)
 - 1 = your employer
 - 2 = someone else's employer
 - 3 = bought plan
 - 4 = Medicare
 - 5 = Medicaid or Medical Assistance
 - 6 = Military
 - 7 = Indian Health Service
 - 8 = other source
 - 88 = none
- Q4. There are some types of coverage you may not have considered. Please tell me if you have any of the following (TYCOVR2)
 - 1 = your employer
 - 2 = someone else's employer
 - 3 = bought plan
 - 4 = Medicare
 - 5 = Medicaid or Medical Assistance
 - 6 = Military
 - 7 = Indian Health Service
 - 8 = other source
 - 88 = none

APPENDIX 4 Insurance Categories (Continued)

The variable <u>INSUR</u> was created using the four questions above. Following is the SAS code used for the variable INSUR:

```
If medicare = 1 or typcovr1 = 4 or typcovr2 = 4 than insur = 1;

*MEDICARE;

If typcovr1 = 1 or typcovr1 = 2 or typcovr1 = 3
or typcovr2 = 1 or typcovr2 = 2 or typcovr2 = 3 then insur = 2; *PRIVATE;

If typcovr1 = 5 or typcovr2 = 5 or typcovr1 then insur = 3 *MEDICAID;

If typcovr1 = 88 or typcovr2 = 88 then insur = 4; *UNINSURED;

If typcovr1 = 6 or typcovr2 = 7 then insur = 5; *OTHER GOV;

If typcovr1 = 8 or typcovr2 = 8 then insur = 6; *OTHER;
```